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(Re-)negotiating gender and class: New forms of cooperation among small-scale fishers in Tamil Nadu

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(Re-)Negotiating Gender and Class

*New Forms of Cooperation Among Small-Scale Fishers
in Tamil Nadu*

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Occasional Paper 11

**Overcoming Inequalities in a Fractured World:
Between Elite Power and Social Mobilization**

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List of Acronyms and Local Terms

Adarntha valai (also Adantha valai)	A small net used in ring seine fishing, targeting pelagic schools of fish, mainly sardine and mackerel
Beta	Daily allowance
FRP	Fibre-reinforced plastic
HH	Households
hp	Horsepower
INR	Indian rupee
OBM	Outboard motor
OT	Old Town
Peyarntha valai (also Pentha valai)	A large purse seine net targeting large fish such as tuna
Seettu	Local rotating credit association
Seppaadu	A community-based system of resource allocation, including fishing grounds
Thangal	Literally translates to “staying”, refers to multi-day fishing
TNMFRA	Tamil Nadu Marine Fisheries Regulation Act
Ur panchayat	Village elders constituting the traditional decision-making body

Abstract

This paper explores new forms of cooperation emerging among small-scale fishers along the east coast of Tamil Nadu, as responses to wider transformations in fisheries and coastal landscapes. Increased competition for limited open-access resources has resulted in a capitalization of fisheries, with those able to invest reaping benefits and others risking marginalization. In order to retain their status as fishers rather than labourers, and gain a voice in decision-making structures, dominated by the traditional elites, many small-scale fishers have been experimenting with new forms of cooperation involving the shared ownership of large boats, engines and other modern technologies. In the process, one finds shifts in class, caste, gender and generational roles, relations and identities.

Based on data collected from a survey of 200 households and in-depth interviews with 20 households in Cuddalore district of Tamil Nadu, the paper explores the processes of negotiation and renegotiation of both gender and class identities, and their intersections. It considers whether, and how, new institutional practices and forms of cooperation (and conflict) are enabling a more equitable sharing of resources and benefits, and in which ways they are further entrenching inequalities.

Keywords

Capitalization; cooperation; differentiation; fisheries; shares; Tamil Nadu

Bios

Nitya Rao is Professor of Gender and Development at the School of International Development, University of East Anglia, UK. With over 30 years of experience as a field-level practitioner, trainer, researcher and teacher, she has worked extensively in the fields of gendered land relations,

food and nutrition security, migration, education, and intra-household relations, and has published in a range of international journals.

R. Manimohan is Postdoctoral Fellow at the Department of Economics and Rural Development in Alagappa University, Karaikudi, Tamil Nadu, India. His research interests include the political economy of natural resource management and policy, particularly focusing on land, water and fisheries in Tamil Nadu, India.

Introduction

India has witnessed a gradual mechanization of marine fisheries since the 1950s, popularly called the “Blue Revolution” (Kurien 1985; Bavinck 2001). The introduction and expansion of trawl fishing coincided with the discovery of rich shrimp grounds in the Indian inshore waters and development of an export-oriented industry for shrimps (Pillai and Katiha 2004).¹ Public investments in infrastructure such as boatyards, harbours and post-harvest technologies; the establishment of the Marine Products Export Development Authority (in 1972); and subsidies for crafts, gear and fuel, provided impetus to this shift. The growth in marine fisheries, focusing on commercialization and export-oriented reforms, reiterated by the National Policy on Marine Fisheries, 2017 (GoI 2017), has also attracted investments by the private sector in a range of support industries (Kurien 1978; Subramanian 2009), now making India 7th in global marine capture fish production (Sathianandan 2017).

Ecological diversity has meant that marine fisheries has always been a diverse sector in terms of both technologies and social relations. While small-scale fisheries are largely family and kin-based, the early Blue Revolution period marked the beginning of visible class formation among the fisher-people alongside a renegotiation of common property regimes. Differences became evident between trawl owners and small-scale fishers, as well as a working class employed on the trawl boats and in the service sector surrounding each harbour (Bavinck 2014; Ram 1991). Today, 34 percent of the marine fishers in India are in the so-called mechanized (small trawl) sector, but they account for 70 percent of the catch—twice that of the motorized, and nine times more than the traditional fishers (Sathiadas 2009).² Average incomes reflect this disparity, with the annual per capita earnings of fishing labourers ranging from INR 13,200³ for a motorized dinghy with bag net to INR 127,200 for a mechanized trawler or purse seiner. Significant variation is also observed within groups of crafts, namely trawlers, gillnetters, purse-seiners, motorized and traditional crafts (Sathiadas 2009). It is therefore not surprising that while marine fisheries in India are considered better paying than other primary sectors (Bavinck 2014), nearly 61 percent of fisher families are classified as Below Poverty Line (CMFRI 2010a).

The same trends are visible at the state level, in the fisheries sector in Tamil Nadu. Following the introduction of mechanization in the late 1950s and the expansion of trawler operations in the 1970s due to the attractive international prices of shrimps, conflicts emerged with the artisanal sector in many parts of coastal Tamil Nadu (Vivekanandan and Kasim 2011). The Palk Bay is a case in point. The small waterbody that separates India and Sri Lanka had witnessed a fierce political protest by small-scale fishers in 1976, against trawlers targeting shrimps in inshore waters. This resulted in a distinctive “three-four-day” rule, whereby trawl fleets venturing into the sea was restricted to three days in a week, allowing the artisanal fishers the remaining four days (Bavinck 2003). In 1983, the Tamil Nadu Marine Fisheries Regulation Act (TNMFRA) further stipulated a three nautical mile zone for the exclusive use of artisanal fishers (Bavinck 2001).

¹ Facilitation of exports through the establishment of seafood processing units with modern machinery for freezing and value addition has contributed to an exponential growth by over 55 times of seafood exports from India (15,762 metric tons to 862,021 metric tons) between 1961 and 2012 (MPEDA 2012).

² Mechanized refers to large boats (over 15 meters in length) with higher horsepower (hp) in-board engines (80 hp and more), while motorized crafts are traditional boats fitted with out-board engines (2-20 hp) (Sathiadas 2009).

³ GBP 1 = INR 95.

The 2004 tsunami sped up some of these trends. Debilitating losses of both lives and property in the fishing communities led to the state widely distributing fishing equipment amongst them. Though such relief and rehabilitation efforts were carried out under the oversight of the main governing institution in the fishing village, the *ur panchayat*, this influx of new boats and gear led to the near total motorization of small-scale, artisanal fishing on the east coast of Tamil Nadu (Pillai and Thirumilu 2005; Bavinck 2008). Alongside the expansion in the trawl fleet, this development intensified the density of crafts and competition within the artisanal sector, leading to a sharp decline in the catch per unit (Bhathal 2014; Vivekanandan et al. 2005).

The post-tsunami reconstruction of fisheries then seems to have intensified class divisions, based on the ability of fishers to invest in mechanized boats and modern gear. Conflicts re-emerged. With the State Fisheries Department lagging behind in implementing the rules, rather treating such conflicts as law and order problems to be handled by the police and civil administration, small-scale fishers have attempted to deal with these issues through institutional innovations as discussed in the next sections. Their strategies to remain viable, often framed within the dominant discourses and practices of neoliberal capitalism (Mansfield 2007; Sundar 2010), involve processes of accumulation, albeit circuitous and indeterminate (Sneddon 2007; Menon et al. 2016), given the different social locations and life conditions of the fishers (Sinha 2012). In the face of growing competition, they also involve the search for new fishing grounds, often further away from home, with implications for labour mobility and labour relations (Rajan 2002).

In this paper, based on data collected from Cuddalore district in Tamil Nadu, we explore how small-scale artisanal fishers are coping with competition from the mechanized fishing sector. In particular we ask, to what extent are changes in labour relations and institutional mechanisms, including the emergence of new forms of cooperation (and conflict), enabling a more equitable sharing of resources and benefits, and in which ways are they further entrenching inequalities? Our focus is on the interlinkages between technology, capital and labour, and its implications for classed, gendered and generational inequalities and subjectivities in fisher communities.

After briefly setting out our conceptual starting points in the next section, we move to a discussion of our methodology and study context. We then discuss our main findings, analysing the implications of changes in patterns of capital and labour mobilization on norms for sharing and cooperation, and inequalities more broadly, before concluding.

Conceptual Starting Points

Much social science research in the field of marine or inland fisheries, as indeed in the realm of common property more broadly, has adopted a political ecology approach to enquiry and analysis. This field has grown and benefitted from simultaneous concerns around the politics of environmental degradation and conservation, sustainable livelihoods in a context where nature is privatized through new forms of accumulation and dispossession, and social justice amidst growing inequalities between winners (those who benefit) and losers (those who bear the costs) (Mansfield 2007; Campling et al. 2012)⁴. The effort is to unpack nature-society interconnections and power relations across multiple scales, in this case, the renegotiation and management of common property resource regimes in the face of mechanized fishing, the deepening of class

⁴ See also Rocheleau (2008), Elmhirst (2011) and Bavinck et al. (2018).

relations and inequalities resulting from capital accumulation, and, at the micro-level, the impacts of this on caste, gender and generational relations.

Capitalist accumulation has taken place in global fisheries in many ways: enclosure of the coastal commons and dispossession of small-scale fishers (Mansfield 2004; Benjaminsen and Bryceson 2012), emergence of wage labour (Howard 2012), neoliberalization of fisheries policy in the form of individual transferable quotas (Crosoer et al. 2006; Høst 2016) and Marine Stewardship Council certification (Pérez-Ramiraz et al. 2012; Agnew et al. 2014). This process of capitalist transformation in fisheries has strengthened a small group of capitalist fishers with concentration of wealth while marginalizing a large section of small-scale fishers by appropriating their access to common property.

The simultaneous processes of mechanization and infrastructure development in the marine fisheries sector in India, supported both by neoliberal state policies and global markets, has resulted in the growing privatization of nature-society relations. As resources get privatized, however, changes are likely in the social rules governing their access, use and consumption (Ostrom 1990). The governance of marine fisheries is very different from other common property regimes involving land, water or forests, as the seas constitute a renewable resource, and the movement of fish therein is not constrained by political boundaries. Territorial use rights in small scale fisheries and the governance of the marine common property regimes in South India are well documented (Mathew 1991; Hopewell 2004), characterized as they are by institutional fragmentation and legal pluralism, a condition in which different rules, norms and values coexist with conflicting interests (Bavinck et al. 2013).

While management of common property resource regimes forms an important context for this study, we focus in this paper on two interlinked issues, the first relating to the processes of capital mobilization and accumulation and the second to labour mobilization, labour relations and forms of resistance. We argue that both of these processes involve not just a renegotiation of labour relations, focusing on a discourse of “shares” versus wages (Howard 2012), but equally gender and generational relations (Hapke and Ayyankaril 2018), as they intersect with each other, and contribute to shaping identities and notions of wellbeing.

Traditionally, within the small-scale fishing industry, the key mechanism for distribution of surplus was the “share” system, rather than wage payments. After the deduction of expenses, the surplus value of the catch is divided between the owners and the crew at an agreed proportion (ILO 2003). Detailed analysis presented in this paper, however, points to emerging inequalities in the distribution of surpluses, with mechanization and the adoption of capital-intensive technologies. Boat owners are claiming larger shares to support capital investments in boats and gear (depreciation costs), alongside interest payments on borrowed capital. While the crew on boats are still technically given a share, this appears more akin to a wage relationship. This is particularly the case with the recruitment of migrant labour, rather than kin members (Howard 2012); being “outsiders”, they are unlikely to have a sense of entitlement to equal shares in this resource.

Migration and labour mobility are central to these processes of change, as they shape the possibilities for capital accumulation and class formation among fishers: locals against migrants, small-scale against large-scale, one gear group against another (See Bavinck et al. 2018). As Rajan (2002) notes in the context of small-scale fisheries in Kerala, India, the growing movement

of people is driven by a host of reasons: geographic; oceanographic; demographic; differences in skills, knowledge and abilities; demand and supply; employment potential; and political and religious factors, to name a few. In our context, the changed availability of fish species, with oil sardines and mackerel moving from the west to the east coast (Vivekanandan 2011), has influenced the adoption of new technologies, here ring seine, with implications for work relations and income-sharing systems. A key driver of migration among the fishing castes, especially young men, is the aspiration to be a boat owner, and hence the need to raise capital for investment in boats and gear. Mobility then needs to be understood in a social and cultural context, as a gendered process, differently experienced and coded by men and women, contributing in particular ways to both challenging and enabling further accumulation (Warrier 2001; Cresswell and Merriman 2011).

Alongside a deepening of class relations as a result, new axes of differentiation are emerging based on caste, gender and age, with attempts to retain boat ownership within the traditional Pattinavar fishing caste, a growing masculinization of the fishing industry, and struggles across generations to gain control over capital and technology. In the pursuit of these pathways to social and economic mobility, we also find new forms of cooperation emerging within the fishing caste, with boat ownership shifting from individuals to groups of owners, given the rising costs (See Nadel-Klein 2003). In Ferguson's terms, these new forms of cooperation among fishers can be interpreted in terms of small-scale fishers, and those without their own boats and gear claiming a "rightful share", based on a sense of democratic citizenship politics, in this case, their belonging to a particular (fishing) caste (2015). "Shares" here take two different meanings: the first, between owners and crew, often closer to a wage, and the second, between partners jointly investing in the boat and gear, more akin to a share. While the first form is disconnected from boat ownership and serves to appropriate the surplus value of labour to the project of capital accumulation, the latter, while appearing to follow the pattern of modern corporate capitalism, remains both negotiated and contested, often drawing on cultural and symbolic capital for this purpose (Gidwani and Sivaramakrishnan 2003).

A less visible change in power relations is at the level of the household, an important social institution, wherein gender and generational relations and responsibilities are constantly negotiated and renegotiated (Kandiyoti 1998). Rocheleau et al. (1996:4) explore gender as "a critical variable in shaping resource access and control, interacting with class, caste, race, culture, and ethnicity to shape processes of ecological change, the struggle of men and women to sustain ecologically viable livelihoods, and the prospects of any community for 'sustainable development'" within the political ecology discourse. While gender is not necessarily the central axis shaping power relations, such an approach, now referred to as feminist political ecology, helps "problematize undifferentiated categories of people and social relationships, and critically in this context, relationships between people and the environment" (Elmhirst 2011:131). In so doing, it deepens political ecology's concerns with power, politics and social justice by penetrating below the level of community institutions and embedding gender within other axes of social difference. Importantly, it takes note of issues of intersectionality, namely, how one's social and political identities whether of caste, class, ethnicity or age, for example, and the interlocking systems of power these entail, combine together to shape unique modes of discrimination or indeed opportunity (Crenshaw 1989).

Context and Methodology

Emergence and development of ring seine in Cuddalore district

Periyapattinam is a large fishing village, considered the “head village” (*thalai gramam*) for a notional 64 fishing villages. The fishing community in the village belong to the Pattinavar caste, with two sub-castes: Chinna Pattinavar and Periya Pattinavar. Since the late 1950s, with state policies encouraging the modernization and mechanization of fisheries, a section of the traditional elite, the Periya Pattinavars, purchased trawlers, with the capacity for longer voyages to target highly fertile fishing grounds. With rising incomes resulting from an increase in production capacity, they gained both economic and political dominance. They gained control of the traditional ur panchayat, responsible for resource allocation, management and conflict resolution, as well as organizing the annual temple festival (Bavinck and Vivekanandan 2017)⁵. They also gained control of the boat owners association, fixing terms with seafood traders and financiers, and ultimately diversifying into other activities—trading, money lending, setting up fish gear shops, ice factories, hotels, aquaculture farms and real estate business. Their “elite” status was secured through cultural and symbolic acts, be it investing in their children’s education, luxurious houses, or marriages and other ceremonial occasions.

The majority Chinna Pattinavars are small-scale fishers, now engaging with ring seine technologies, even though this remains contested on grounds of ecological harm and social inequity. In fact, due to demands from both the trawl fishers and non-mechanized fishers, the Government of Tamil Nadu issued a notification (GO 40, 25.03.2000) banning the use of ring seine gear in the state. As Manikkam, 53, one of our key informants noted:

When surukuvalai (ring seine) was used initially, we were against it. It was banned by our ur panchayat. In Pazhaiyaru (Nagapattinam district), they had started using these nets in kanna boats. Once they came close to our village for fishing. We protested, as the gear both damages the fish resources and intensifies the unequal distribution of income and wealth among us fishers. When they didn’t stop, in 200 boats, fishermen from our and neighbouring villages went to Pazhaiyaru and burnt their nets. Yet the technology spread, we could not control it, but were losing out in terms of fish catch.

The small-scale fishers in one of our study village, called here as Periyapattinam, mainly Chinna Pattinavars, and especially the youth, started arguing with the ur panchayat to lift the restrictions on ring seine. This did not happen, as the ur panchayat, controlled by the trawl owners, wanted to minimize competition and conflict with the ring seiners seeking to use the *peyarntha valai* (nets with a larger mesh size) to target larger export species like tuna and other pelagics (see Lawrence and Bhalla 2018). Despite the ban and restrictions by the ur panchayat, the use of ring seine boats increased, with a total 192 units in the district in 2017, operated with two different types of vessels and nets (163 kanna boats and 29 steel boats).

The *kanna* boat is a plank-built canoe, used widely for traditional and ring seine operations in Kerala since the 1980s. It spread across the east coast post-tsunami, mainly using the *adarntha valai* (net with small mesh size) for oil sardine and mackerel fishing. A second hand kanna boat (20 metres in length) with such a net would cost around INR 6 million (USD 80,000). The second

⁵ Ur Panchayats are different from *gram* (village) *panchayats*, which are units of rural civic administration supported by constitutional provisions in India.

type is a steel boat, allowing for longer voyages for multi-day fishing, using the peyarntha valai. Steel boats with all the equipment require an investment of almost INR 12 million (USD 160,000). They also operate out of harbours rather than the village beach landing sites. Many small-scale fishers joined these units, bringing together their FRP (Fibre-reinforced plastic) boats fitted with Outboard Motors (OBM) of 10 hp capacity, received as part of tsunami relief, as carrier boats. They were encouraged by traders, who control the processes of auctioning, pricing and profit-making, especially for oil sardines and mackerel, the demand for which is high.

To resolve the ongoing conflicts among the fishers—the trawl-owning elite fishers, challenged in their control over capital (trawl boats) and decision-making (use of marine resources and harbours), and the small-scale fishers, now taking to ring seine to increase profits, making larger investments in steel boats fitted with high-speed engines⁶—the district administration convened a series of meetings in 2016 and 2017. While allowing the use of ring seine, their operation was restricted to six months in a year. The conflict however is not resolved, and breaks out in violent clashes between the two groups at frequent intervals⁷.

The study villages

Cuddalore, one of the 13 coastal districts of Tamil Nadu, with a relatively small coastline of 57.5 km, nevertheless accounts for the third highest fish catch in the state (15 percent of the total in 2010), following Ramanathapuram and Kanyakumari districts (CMFRI 2010b). This paper is based on a study of two fishing villages in Cuddalore district, Periyapattinam, already introduced in the last section and Uppanankuppam, both dominated by the Pattinavar caste, and severely affected by the 2004 tsunami. Please see map of the study location below.

Periyapattinam is a relatively large settlement with 2024 households, 66 percent (1335) of which are fishing households (CMFRI 2010a; Census of India 2011). It is a part of Cuddalore municipality, well connected by buses and share-autos. The non-fishers include the Vanniyar (250), Hindus designated as a Most Backward Caste (MBC), engaged in dairying, floriculture and auto driving, and Dalits (150), mostly small cultivators and wage-workers. They live in separate habitations within the village. The sandy beach around the village has gradually eroded and following the tsunami, the government erected a 1 km long groyne, reducing considerably the space available for shore-based activities, including vending and drying fish, undertaken by women. Perhaps to compensate, a fish market was recently constructed in the village. At the northern end of the groyne, there is some space for docking FRP boats, and at the southern end, a sandy beach, a local tourist attraction. This has however led to growing concerns about plastic pollution. A police station and government college are located in the village.

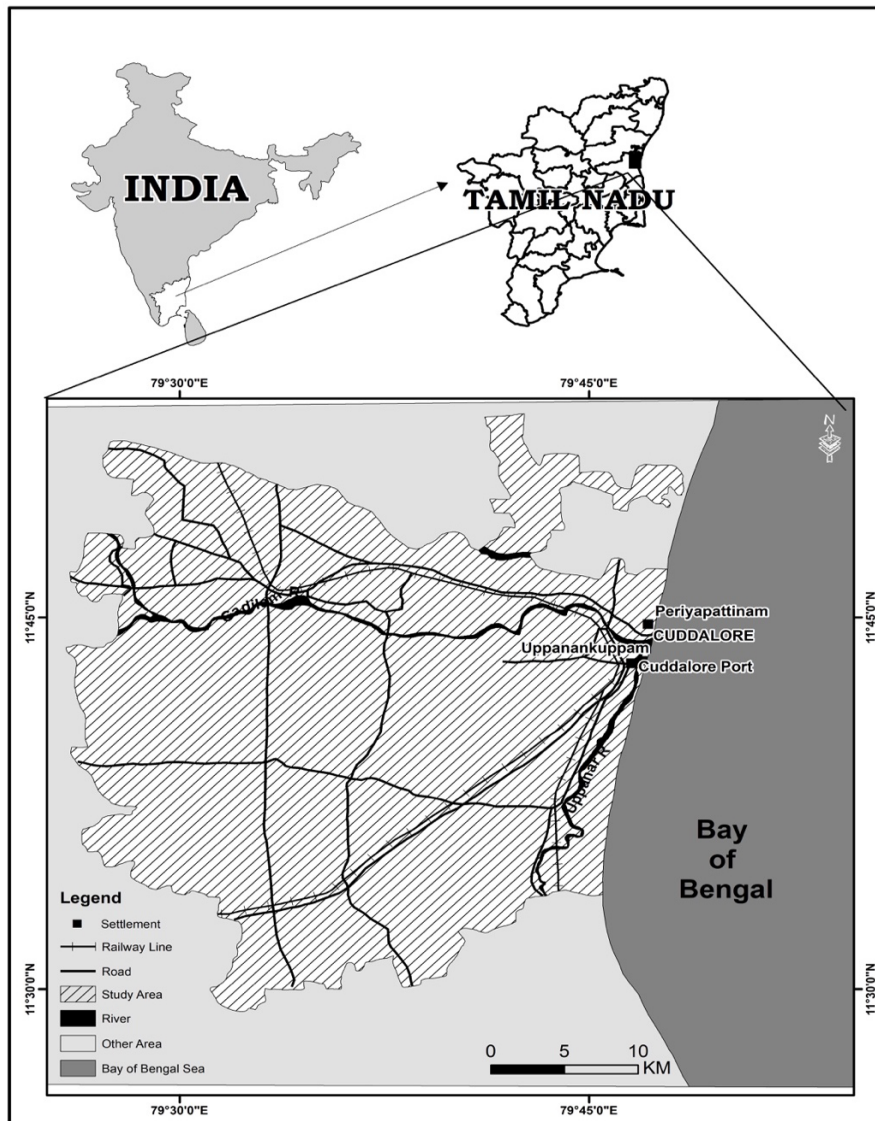
Uppanankuppam is a smaller village of about 450 households, mostly Pattinavar, a few kilometres south of Periyapattinam. Close to 60 percent of our sample households owned FRP-OBM boats, and many used these to get shares in ring seine units. In fact, while not necessarily in support of the ring seine technology, they felt they had no choice, many complaining that the use of ring seine by larger fishing villages like Periyapattinam put at risk their livelihood. The village has a

⁶ Caterpillar or Chinese engines with a capacity of 500 hp.

⁷ In the initial phase, the trawl owners directly confronted the ring seine fishers in the ur panchayat, as apart from challenging their dominance and authority, the ring seiners compete for labour and other inputs such as ice. Later, opposition to ring seine also emerged from small-scale fishers, who do not own shares in ring seine units, but fish in inshore waters. The series of meetings convened by the district administration was the outcome of this process. It was agreed to stop the ring seine operations in six months and convert them into other types of fishing practices such as gill nets. But ring seiners continue to operate as they have invested large borrowed capital. They also claim ring seine is not a destructive fishing practice (Bavinck 2020).

long and sandy beach where boats are moored and operate as small units during the six months when ring seine is not allowed.⁸

Figure 1: Map of study area



Source: Gunasekaran (2020)

Mixed Methods Design and Sample Selection

The study used a combination of a household survey with 100 households selected randomly in each village, followed up by qualitative in-depth interviews with 10 households (husband and wife) in each village. Given that these are fishing hamlets, random selection of households was considered appropriate to provide a fairly representative and generalizable set of insights. The sampling frame was prepared from a household listing based on the membership of the fisher cooperative societies in each village and interviews with the village panchayat leaders. Data was collected on household assets, occupations, migration patterns, consumption, social networks and decision making.

⁸ The fishermen use a range of gear in these smaller boats, including gill nets, long line and scoop net (*kachavalai*) depending on the availability of various species in different seasons.

The survey revealed that while a majority of households in both villages lived in brick-walled houses with concrete roofs⁹ and had electricity, almost a third complained of poor-quality water and the need to purchase drinking water. Further, 20 percent of the Chinna Pattinavars in our sample did not have access to toilets. Yet given the wide-ranging state welfare provision in Tamil Nadu, most households had access to LPG cylinders for cooking, mixer-grinders and television sets. Many had refrigerators, and mobile phones were near universal.

Alongside the surveys, we conducted 4-6 focus group discussions with different categories of men, women and youth in order to understand their different perspectives and aspirations. This was important as part of the ring seine conflict appears to be generational, with educated youth, unable to find suitable employment elsewhere, seeking higher incomes within fishing. Details about the challenges and opportunities within marine fisheries was collected through key informant interviews with ring seine shareholders, crew members, women auctioneers, traders, NGOs and in-migrants. The data was collected between March 2017 and February 2018. In line with ethical procedures of ensuring confidentiality, all names have been changed.

To provide some context to our study, Table 1 presents data on boat ownership and Table 2 an occupational profile of the two villages from our primary survey. As per the CMFRI 2010 survey, Periyapattinam had 20 trawlers and 56 ring seine boats, in addition to 490 motorized and 50 non-motorized crafts in 2010. Uppanankuppam had 4 trawlers and 15 ring seine units, apart from 215 motorized and 50 non-motorized crafts (CMFRI 2010a). While it is hard to compare our findings, based on a sample survey, with these figures, we nevertheless found through triangulation of methods that there are no trawlers in Uppanankuppam anymore, while both villages reveal a significant rise in ring seine shares.

Table 1: Number of boats owned by households in the study villages (2017)

Village	Non-motorized boats		FRP-OBM			Mechanized boat				Ring seine	
	No. of HH	No. of boats Owned	HH	Own	Share	Own		Share		HH	No. of shares
						HH	No.	HH	No.		
PERIYAPATTINAM	15	15	40	40	7	4	4	1	1	59	62
UPPANANKUPPAM	10	9	49	55	9	0	0	2	2	48	51
Total	25	24	89	95	16	4	4	3	3	107	113

Source: Authors' own data, collected from 100 households in each village

Note: HH = households, FRP-OBM = Fibre-reinforced plastic with outboard motors

The shift in patterns of boat ownership as well as organization of fishing, with operations moving to the harbours from the village beach, has implications for gender relations, roles and identities. While women were central to the post-harvest fishing operations—cleaning, transporting the fish to the market, vending, drying, etc.—the move to the harbour located in the Old Town (OT) of Cuddalore has meant a shrinking of opportunities open to women. In the Old Town, which has now become the major business centre for both villages, women have been replaced by male traders, exporters and migrant workers, often from outside the locality and with access to

⁹ While Periyapattinam had many “tsunami houses”, constructed by the government or NGOs, this was not the case in Uppanankuppam. The owners of steel boats, while still working on-board, employ labour, both kin and migrant, and generally live in better houses.

infrastructure and considerably more capital than the women. Velumani, 49, a successful male seafood trader, currently president of the Cuddalore District Fish Trader’s Association, confirmed:

I come from a fisher household and established a seafood trading company with my two brothers. We purchase seafood from major harbours in Tamil Nadu from both trawlers and ring seine units. We supply high values species mainly shrimp, lobster, cuttlefish, squid and crab to the seafood processing and export companies in Tamil Nadu, and low value items like sardine and mackerel to dealers of domestic markets in Kerala. We also supply bycatch to fishmeal plants and sardine to fish oil extraction companies. Due to our links with these traders and companies, we get orders from them in advance. Seafood trade is a risky venture, so we have spread our risks through investments in a transportation unit as well as an ice plant. A total of 260 workers, many of them migrant, are employed in our firms, now well reputed all over Tamil Nadu and Kerala.

With men increasingly seeking shares in boats to engage with capital-intensive fishing, recruiting migrant male labour to work as crew and also undertake allied tasks, women have been gradually displaced from their central role in the post-harvest drying, processing and sales of fish. Consequently, fisherwomen are now seen as “housewives” rather than active contributors to the fisheries value chain (Table 2). 48-year-old Jothi reflected the sentiments of many women when she said,

Earlier kattumarams and FRP boats brought the catch to our shore round the year. We women had the right and the responsibility to take the catch to the transport point or the OT market at the earliest. We earned some good money and had fish for household consumption. As most of the FRP boat-owners have now become shareholders in ring seine, the catch directly goes to the harbour. We have lost our income but also food. We no longer get to eat fish every day.

This change seems starker in the larger and wealthier village of Periyapattinam, compared to Uppanankuppam, where small-scale fishing still persists. Women from fishing households here are also finding some opportunities as auctioneers for ring seine units. While Table 2 does not demonstrate change over time, we got insights into this from our in-depth interviews, focus groups and observation. Yet unlike in agrarian societies (See Rao 2014a), given male absence from the home for extended periods of time, fisherwomen remain responsible for financial management of both the fishing enterprise and the domestic domain.

Table 2: Occupational profile by gender in the study villages

Occupation	PERIYAPATTINAM		UPPANANKUPPAM	
	N	%	N	%
	Male			
Fishing boat owner/share	81	50.6	84	51.9
Fishing crew/labour	27	16.9	30	18.5
Fishing allied	4	2.5	4	2.5
Fish trader/ agent	2	1.3	0	0.0
Petty business	3	1.9	3	1.9

Private sector/ government employee	4	2.5	2	1.2
Working abroad	10	6.3	27	16.7
Both boat owner/ shareholder and working as crew/labour	29	18.1	12	7.4
Total	160	100	162	100
	Female			
Fishing allied	0	0.0	13	10.2
Fish vendor (shop/market place)	14	10.1	8	6.3
Fish vendor (going to village)	13	9.4	17	13.3
Auctioneer	0	0.0	9	7.0
Petty business	3	2.2	3	2.3
Private sector/ government employee	9	6.5	0	0.0
Household work	100	71.9	78	61.0
Total	139	100.0	128	100

Source: Authors' own data

Despite losing their livelihood, women continue to provide a range of services, including raising money for investment in their husband's fishing operations, but their contributions are now largely unpaid and hidden. Their reproductive labour both subsidizes production and enables capital accumulation (Dunaway 2013), imposing new conditions under which social reproduction must occur (Beneria 1979).

Challenging Trawl Owners' Control over Political and Material Resources: Emerging Findings

We start this section with the narrative of Raman, 39, of Periyapattinam, to illustrate the social and economic processes involved in challenging the control of resources and political power by the dominant group among the fishers: the harbour-based trawl owners, who control the village institutions, businesses in the harbour and the trawl fleet.

After the introduction of ring seine, a few years after the tsunami, we got a lot of fish: oil sardines and mackerel. Initially, sixteen families, all close relatives, came together to form a ring seine unit. We set a norm that each family contributes INR 20,000 as their share, so could mobilize INR 320,000. We bought a boat with equipment from Cuddalore harbour. Thirty members from our sixteen families came as crew for fishing. We selected a person from among the shareholders to manage the day-to-day activities such as account keeping, purchase of fuel and water, arranging finance and equipment repair and maintenance. Everything went well for two years, but then problems arose and we stopped working together. Some of the shareholders questioned the trustworthiness of the accountant (kanakkupillai), but importantly people wanted to share the income only within a small group in order to accumulate wealth quickly. We sold the boat and shared the money among the partners. With others doing the same, today there are over 100 ring seine units in the village.

The current ring seine unit is my third one. The kannu boat was replaced by a steel boat with a powerful engine, gear, GPS and other equipment. Now we are only five shareholders. The value of a share is INR 2 million (100 times what we first contributed) and altogether ten million rupees were mobilized from the shareholders. This time I managed to buy only half a share as I was unable to mobilize sufficient money. We have also taken an advance of INR 2 million from an auctioneer.

Along with the five shareholders, we have 40 crew members working on the boat. Most of the crew members are small farmers and agricultural workers in the age group of 20 to 40 years and come from the agrarian hinterland. Some take advances from the boat owners to pay their children's school fees, for health care expenses, or household consumption needs, so are obliged to work on the boat until they repay the loan. We shareholders also work with the crew, but our tasks are more skilled—casting the net, observing the wind and water currents, and identifying the shoal (maappu)—and managerial in nature. We give instructions, which the workers follow.

With our steel boat, we can go for Thangal fishing, extending our stay at sea for a week or more. We use both gears—the Adarntha valai for smaller fish, and the peyarntha valai for the bigger ones. In case of the former, we return within a day; otherwise we stay longer. Once we have our catch, we inform the auctioneer by phone so she can reach the harbour to auction our fish. The auctioneer gets 10 percent of the value of the catch as her commission for the advance given to the boat. During the ring seine season, there are always traders or their agents at the harbour to buy the catch.

We share the income on an equal basis, that is, after deducting the operational costs (including fuel costs of the main and carrier boats, food rations, water and ice), 50 percent goes to the owners and the remaining 50 percent goes to the crew. The crew includes the shareholders (as working partners in the boat), labourers, and the group of four to eight FRP boat operators, who serve as carrier boats transporting the catch to the harbour. The carrier boats are paid three labour shares (one share for the boat operator and two for the boat). An extra half share is given to the boat driver in addition to his labour share. Another half share is kept for giving incentives to efficient workers.

We do not share the income on a daily basis. Usually once in a month we check the accounts and calculate the income and expenditure and divide the income between owners and crew. If the catch and income is good, we may do this fortnightly. In case someone (whether owner or labourer) needs cash, he can get it as an advance from the accountant, to be deducted when the shares are calculated. The accountant is responsible for the money; some may clandestinely lend for short-term interest, and this is one of the reasons for doubt about the accountant's honesty.

The above case brings out a range of issues around the mobilization of capital and labour and the social organization of ring seine fishing. We discuss these in turn before moving on to analysing the new forms of cooperation and the potential for challenging the affluent trawl owners, by focusing specifically on the concepts of “share” and “sharing”.

Capital mobilization

What emerges from Raman's narrative is the need for substantial capital to set up a successful ring seine unit. While earlier there was a clear distinction between the trawl owners, the capitalist elites of the fishing community, and the small-scale fishers, this boundary is now dissolving, with several small-scale fishers coming together with their small boats and some capital contribution to establish ring seine units. As already noted, the trawl owners in Periyapattinam have tried to limit the competition from such units by restricting ring seine operations to six months of the year. Despite this, the number of ring seine units have not only been growing, but at the same time, some of the more successful units that started with a broader base of 15-20 shareholders, as in the case of Raman above, have sought to restrict the number of partners to a smaller group of 4-5 people. The smaller sizes of shareholder groups are a sign of growing wealth among those involved in ring seining in this way, and their ability, despite increasing costs, to mobilize funds. In an effort to enhance earnings, they end up once again concentrating ownership in the hands of a few, emphasizing at the same time a discourse of production and productivity rather than equitable distribution.

Not all, however, have sufficient capital to buy these shares in ring seine units, so depend on a range of sources and strategies, both collective and individual, to do so. At a collective level, as Raman noted, the shareholders approach auctioneers, mainly women, for any capital shortfalls. The auctioneers, in return for their contribution, get the rights to auction the catch and earn a commission. As Jayathi, a 52-year-old woman auctioneer, noted, "*In addition to my own resources, I borrowed INR 10 lakh for interest from various sources such as seettu (local rotating credit association) and private money lenders. My co-auctioneer also brought her own share*". Drawing on auctioneers as a first port of call in terms of capital mobilization reinforces women's central role in money management vis-à-vis the fishing enterprise, but also the strong perceptions within the fishing community that women are better mobilizers and managers of money. However, it is only older women, with experience and credibility in the fishing industry, and with social and financial networks developed over many years of engagement with the fish trade, who are able to both mobilize the necessary capital and participate equally in the industry.

Despite the contributions of the partners/shareholders and the auctioneers, at times, additional borrowing from private moneylenders at interest rates as high as 60 percent per year, becomes unavoidable. It needs to be mentioned here that given the illegality of the ring seine gear in Tamil Nadu, borrowing from public sector banks at reasonable rates of interest is not a possibility. Such private sector borrowing has contributed to the growing differentiation in the catch shares of the shareowners and the crew. The owners deduct the costs of capital, both interest and depreciation, from the total catch-value, before calculating the division of shares. This helps them repay their loans after a few trips. As several fishers who worked as crew members noted, "the catch was good in the early years, around 2009-2010, and our incomes were relatively high, so we did not challenge the differentiation in the calculation of shares".

At the individual level too there are a range of strategies, apart from drawing on personal savings. A key one is migration to a foreign country in order to save adequate money in a shorter period of time to buy a boat-share. As 70-year-old Gurusami of Uppanankuppam noted, "*my younger son has been working in Singapore since 2011. From his earnings, he gave me INR 40,000 to buy a share in the ring seine here. He was very helpful and it is a good investment*". Several of the younger fishermen have migrated themselves. Selvam went to Singapore in 2006 and worked there for three years to accumulate enough money to buy a share in a ring seine unit. In 35-year-

old Satish's case, his brother worked in Singapore and sent him money to buy a share. Additionally, he had to borrow a little from relatives. In fact, in our focus group discussions with youth on the reasons for migration from the village, several of them indicated the desire to earn money to buy a share in a boat. They felt that conditions of work overseas are not always good; neither is living isolated from their families and friends. Given the potential for high earnings from fishing, and the scope for leisure increasing with the use of modern technology to precisely identify the location of fish, they preferred to live with their families and lead comfortable lives. Many of them are well educated, yet in the absence of remunerative and higher-status employment, find this the best route to livelihood security.

Even at the individual level, migrant remittances are often not sufficient, and households need to borrow from private moneylenders, driving high levels of indebtedness. While women appear to be marginalized from the main fishing enterprise, with much of the post-harvest work at the harbour too being done by men (including migrant workers), here, their roles in raising and managing money, is called into play. There is no guarantee of "success" in this male enterprise, yet women as wives appear willing to gamble with the only assets they have—their gold jewellery, received as dowry—to support these projects (Swaminathan et al. 2011). This demonstrates not just relations of interdependence, but their centrality in advancing collective life-projects. It points also to the importance of cultural assertion and establishing social status in the processes of accumulation (Gidwani and Sivaramakrishnan 2003). Sridevi, 37, of Periyapattinam, said:

As ring seine became popular and a money spinner, we wanted to buy a share too, but we did not have sufficient cash or savings. My husband had already started working in a ring seine boat as a crew member. We decided to raise capital by pledging my gold jewellery with a private finance company. While people say that fishermen can get jewel loans from banks at low rates of interest, in practice it is difficult. There are several hurdles, including the need for repeated visits to the bank.

While one can argue that women retain an important position in fishing households through their contributions to capital mobilization, declining income earning opportunities in a context of capital-intensive production systems can also be seen as contributing to a decline in women's status. Perhaps the only option available to these women to ensure future wellbeing and security is to contribute to, rather than resist, the processes of accumulation, as noted by Sridevi above. The demand for more capital has however contributed to an inflation in dowry payments in fishing communities. This in turn has implications for the very survival of the girl child through the practice of sex-selective abortions (Srinivasan 2012). While not exclusively relating to fishing communities, Cuddalore district witnessed a decline in child sex ratios between 2001 and 2011 from 970 to 957 girls per 1000 boys (GoTN 2017).

Labour mobilization

Compared to small-scale artisanal fishing, or even trawlers, typically a ring seine unit requires a relatively large crew, consisting of at least 30-40 labourers. In the initial years, labour was provided by kin, but as noted by Raman, as the number of ring seine units grew, and simultaneously the number of shareholders reduced in each unit, the demand for labour increased manifold. Fishing villages were unable to fulfil the high demand, so owners started recruiting labour from the agrarian hinterlands.

As farming in Cuddalore district is rainfed and seasonal, a section of the agrarian population had already moved to the coast, Old Town harbour becoming an attractive centre for several shore-based and post-harvest activities, such as loading and unloading fish, or working in ice factories, that provided employment during the slack season. Boat owners, increasingly operating out of the harbour rather than their village beach, have day-to-day interactions with these shore workers, and they became the channel for the recruitment of crew. While some of the shore workers themselves shifted to ring seine fishing, they importantly acted as informal agents, bringing more people from their farming villages to the shore. Some of the owners also made visits to these villages with their contact persons and directly recruited young workers by giving advances (loans) and *beta* (allowances for travel and food).

Saravanan, 27, of Periyapattinam admitted that often labour comes from further afield. Instead of recruiting locally and providing advances, they get workers from Ramanathapuram district, who stay on the boats, cooking their food on portable stoves. But it is not just labour from other districts of Tamil Nadu. We found a large settlement of 300 to 400 migrant workers from North India residing in a cluster of houses between the two villages. While about half of them work in the SIPCOT industrial complex in the locality, over 150 Muslim labourers from Farrukhabad district in Uttar Pradesh were working on ring seine boats. With no prior experience of the coast or indeed fishing, the need for income and employment was driving them to work as crew. As Chote Mian noted,

I came to this area 16 years ago to sell Kulfi ice cream, but about 8 years ago found that fishing was more lucrative, so moved here and brought others from my village. There is no work at home. We have rooms in a large house, sharing 10 to a room. We cook ourselves. We buy wheat from the neighbours as we don't have access to the Public Distribution System here. Our wives are involved in bidi rolling to earn some extra money at home.

These North Indian migrant workers have no security of earnings; like other workers, they too ostensibly receive a share rather than a wage. But they clearly get the worst deal, as they do not have any backup support in terms of household assets in the study locality. They live in rented rooms and have to buy their food, including basic grains, from the market. While polite with the boat owners, they admitted to experiencing stigma as *Hindikaran* or the “Hindi-speaking people”. They also realize that they get paid a lower wage/share compared to the crew members recruited from the locality, as they are seen to be lacking in “skills”. Here too there are no agents, but workers follow their kin and relatives in search of work. As Bhaiya noted, “*the season is only for six months. We then go home to help with farming. When we return, other boys come with us*”.

Krishnamurthi, 40, from Uppanankuppam, narrated that in 2017, after a first bumper catch, the ring seine season collapsed and led to huge losses. Despite paying them some *beta*, the migrant workers were unable to withstand these losses, and many left for their villages in Uttar Pradesh. Even though they felt they had failed their families in terms of incomes, once home, some worked on their small plots of land; others took up temporary rickshaw-pulling for survival. Employing low-waged, migrant workers, however, has not just enhanced the distinction between owners and labourers—as not belonging to the traditional fisher castes, these groups are unlikely to ever emerge as boat-owners—but has also raised questions on what “shares” mean. This is discussed in the next section.

A further dimension of labour mobilization was a generational one. In a focus group of young men, they were candid about the feeling of intergenerational injustice and lack of recognition.

We did not like to work with our previous unit as we youngsters were dissatisfied with the behaviour of some of the elders in the unit. They are our relatives, yet they tried to extract work from us, and kept abusing us for not working hard enough. We did not like it. Some of us have worked on ring seine boats for almost five years, yet they constantly undermined our experience and skills, so we decided to start our own new ring seine unit.

A key informant confirmed that the boys are running their boat successfully, and in the village, it is popularly called the boys' boat (*pasanga valai*). While earlier they were ridiculed, they are now recognized as capable fishermen. As already noted, many of these young men are well-educated, yet in the absence of other remunerative employment, have returned to fishing. Some had spent a few years overseas to raise capital for buying a share in a ring seine unit. They have aspirations of working in a modernized fishery and are therefore driving the processes of capitalization of the industry.

Unpacking cooperation

The meanings of "sharing"

While small-scale fishing and the fishing industry more widely subscribe to the discourse of "shares" for the distribution of surplus value, in this section we analyse the practical functioning of this principle in the ring seine industry, raising the question of whether this is a disguised wage relation rather than a share. Krishnamurthi, while narrating a process of capital and labour mobilization similar to Raman, elaborated on the sharing of incomes and expenditures.

After the two-month ban on fishing during the breeding season this year, we launched our boat with a trip involving thangal fishing. The expenditure was high (4000 litres of diesel for INR 250,000; 200 pieces of ice for INR 22,000, rations costing INR 30,000 including INR 15,000 for liquor, water for INR 2500; other costs INR. 1000), but the catch was also good on our first trip—tuna and skipjack worth INR 600,000, and other fish worth INR 200,000. We deducted the operational costs from the net amount, after the payment of the auctioneer's commission, and shared the income on a 60:40 basis – 60 percent for owners and 40 per cent for the workers. The driver gets an extra half share. In the following trips, we made huge losses, and were unable to even recover our costs. We now have an outstanding debt of INR 600,000.

This system of sharing is common among artisanal fishers too, where the person responsible for the maintenance of the boat and engine gets an additional share. While the ratio of owner and crew shares may change over time as capital requirements for boats increase, here we found shares changing in relation to the fish catch even within a season. Saravanan explained that if the catch is good, owners divide shares on a 60:40 basis, otherwise on a 50:50 basis. While ostensibly the fishing share system is equitable and perceived as fair, what emerges is that payments vary depending on the size of the catch and market prices. When the value of the catch rises, crew shares are reduced, as their average earnings are maintained even with a lower share (See Howard 2012), suggesting that they are more akin to wages than shares. The additional value is then appropriated as a return to capital, rather than to labour, justified by the owners through their ever-increasing investments in boats and gear.

As costs of the fishing expedition are always deducted before the calculation of shares, there is also some scope for cheating and manipulation. As Manikkam noted,

About 60 to 70 percent of the owners are genuine in sharing the income along these lines; others cheat the labour by inflating the operational costs. For instance, even if all the diesel is not used, it is charged to the trip; liquor is added, and so on.

What this means is that the crew too are contributing towards the payment of costs and maintenance of capital. While the migrant crew members do not directly hold the owners responsible for either the size of the catch or the price at which it is sold, and in the absence of other jobs, don't question the shares they receive, this is not the case for younger local men, especially from the fishing castes. They see their "rightful share" as an entitlement to a common resource, given their membership in the fishing community (See Ferguson 2015). In much of the Coromandel coast, including Cuddalore, a community-based system of resource allocation, called the *Seppaadu* system, was practiced, where fishing grounds and fish aggregation devices were allocated to different families across villages (Narayanasami, 75, Key Informant Interview)¹⁰. While this system began to break down in the late 1970s with the expansion of trawler fleets, the remaining resource sharing arrangements based on common sharing norms are also now being marginalized in the wake of private appropriation of marine resources through employing capital-intensive technologies such as ring seine. Younger crew members, belonging to the fishing castes, resent the indirect processes through which boatowners appropriate surpluses through differentiating the relations of production with respect to owners, drivers and crew (See Howard 2012). Rather than supporting more equitable co-management practices (to potentially include the migrant workers), they seek to buy their own shares in boats, raising capital either through migration or marriage, and join the category of boatowners.

Thus, while people in different positions—boatowners, carrier boatowners, drivers, crew members from the fishing castes, or migrant crew members—get different shares, there is a conceptual distinction made from wages. Wages represent the status of a worker or employee; they tend to be fixed, even if low. Here the position is somewhat ambiguous. If there is no catch, the labourers too get no "share", yet as all the shareholders noted, they still give the labourers their daily *beta* (allowance), often from their own pockets. In this sense, the boatowners do seem to take responsibility to give the workers something to survive on, akin to a minimum wage.

These men belong to the Vanniyar and SC castes. They get a share of the total catch value, but also get a daily beta of INR 100 when there is little or no catch, or 200 when it is more. We treat them equally, sharing food during thangal, and gifting them clothes on festivals. Yet they often spend their beta money on alcohol. We have no choice but to hire them due to severe labour scarcity here. (Murugan, 40, Uppanankuppam)

The discourse of shares, however, provides the owners some flexibility in the payments to be made, linked as these are to the catch size. This seems to have a parallel in agrarian contexts, where sharecropping is seen as a method to share risk by the tenant farmers. Yet, when the output from the land is high, it can equally be considered a tool for the appropriation of surpluses by landowners (Byres 2006).

¹⁰ See also Mathew (1991); Lobe and Berkes 2003.

In small-scale fishing, as already noted, few workers were involved, often related by kin, such as two brothers, or a father-son duo who managed the boat. Now, steel boats especially require much more labour—5 owners and 35 workers—giving rise to visible class relations. Such relations seem to have prevailed in the past too, especially in beach seining and the *karanila* system of operating encircling-nets, even more perhaps than in mechanized fishing, but they were couched as feudal, patronage relations, with the boatowner engaging older or retired fishers and providing them with some cash and fish in return for their labour (Sinha 2012). With 10 or 20 shareholders now replacing a single boatowner, the advantageous status of being owner of means of production, such as a boat, is now accessible to more people, though restricted to the fishing caste. While the discourse of “worker-shares” could then be seen as a way of appropriating labour, particularly of migrant workers, for capital accumulation by the boat owners, it could potentially also be seen as recognition of their entitlement to a share of the resource, in this case one based on common property.

Even among the owners, as Raman pointed out, there is a desire to restrict the size of the shareholding group, so those with shares can earn higher incomes. This often leads to conflicts for a range of reasons, including family jealousies or perceptions of cheating by the accountant. Murthi, 55, of Uppanankuppam suggested that *“it is often a perception that the accountant has manipulated the accounts in favour of his own family that creates splits in the group. But once the view that a small coterie is looting the rest spreads, it is hard to continue, as labourers too are unwilling to work on the boat”*.

While individual interests have always been there in fisheries, it appears that collective institutions are reducing in their forcefulness due to many reasons: the presence of alternate, elected local governance structures, greater connections to the outside world through migration and remittances, growing socio-economic differentiation, as well as generational challenges to the traditional hegemony. One example is the introduction and expansion of ring seine fisheries itself, driven by a sense of survival, but equally growth, vis-à-vis competition from fishers in neighbouring districts. As alluded to in the previous section, younger men returning to the fishing enterprise seek higher incomes and a better life than their fathers and grandfathers. In this process, a sense of ethics and equity, vis-à-vis other fishermen, and the sea, regulated in the past by community institutions, is fast disappearing. Some of the retired fishermen felt that even with the ring seine gear, the fish caught and its value should be shared more widely, rather than being concentrated in the hands of a few. This would protect the livelihoods of small-scale fisher families, promoting social justice (Menon et al. 2018).

Differentiating identities to maintain class

Ownership of boats is restricted to the fishing caste groups, here mainly the Pattinavars, and preferably close kin, though we did find an instance of the Parvatharajakulam or inland fishers setting up a ring seine unit in Uppanankuppam¹¹. In exceptional cases, when the fishers are unable to raise sufficient money for investment, they may allow a few Vanniyar (peasant caste) friends to buy shares, as has been the case with trawling. Similar to most businesses, we did not however find any instances where capital ownership was democratized to the extent that the workers, especially migrants from non-fishing backgrounds, were admitted as shareholders. This is perhaps

¹¹ They are increasingly involved in small-scale, marine fisheries.

meant to maintain their primary claim to the common property of the sea as traditional fishers, but equally to mark their distinction as skilled workers, relative to the crew.

Many fishers emphasized that they allocate only non-professional activities like lifting (dragging) the nets to the migrant workers, and themselves do the skilled tasks like holding the ring seine in the drum. The differences in skills justify the differential returns in terms of relative shares, but equally the different sets of entitlements in relationship to asset ownership and resource management, the *ur panchayat* continuing to be exclusively controlled by the fisher castes, and especially the wealthier among them. Saravanan noted, “*People who are not fishermen by birth will not be able to learn a few things about fishing. They can only see a few fish. They will not be able to knit the nets, they will not be able to learn the direction of the water current*”. So apart from practical skills, there were also the less visible skills of observation and intuition that the migrants were seen to lack. The idea of “specialization”, visible here in the labour processes of ring seine fisheries (and trawling), is the centre-piece of differentiation in globalized labour markets (Standing 2011).

Interestingly, Murugan, 44, of Uppanankuppam is also a ring seine shareholder, but he belongs to the caste of inland fishers (Parvatharajakulam). While receiving equal shares, he noted the derogatory language that the Pattinavars often used to address them. He said, “*It is humiliating and hurtful. They say that we do not know how to fish in the sea. But in fact we are teaching them our techniques. Just because they are in a majority, they say what they please. I do not like such discrimination, so came out of the group. 10 partners from our caste have now formed a group.*” There is clearly an increasing use of caste and ethnic identities in maintaining class divides. While the idea of specialization is not always perceived as unfair or unjust, such narratives do help to justify the ever-deepening processes of differentiation in fisheries, with capital expansion at times leading to the exploitation of labour.

At the same time, most shareholders seek to visibly maintain ethical principles of equity in the sharing of common property resources. They are hence keen to demonstrate that they treat their workers well, with generosity, bringing forth ideas of the moral economy (Scott 1976). Muthu, 52, of Uppanankuppam mentioned paying the labourers both their share and *beta* regularly.

We also give them fish to take home, as they can't afford to buy fish. The workers are mostly Vanniyars; they never ate at a fisherman's house in the past. Now the situation is changing; as they are working on our boats, they have also started dining with us. This is a big change, but still, we don't like to eat in the homes of the Dalit workers.

It is interesting that Muthu signals their own upward mobility in detailing their relationships with the labourers. The Vanniyars, though higher than them in the caste hierarchy, are now employed as labourers, and in the process have overcome some of their caste prejudices, especially in terms of dining. Here class clearly trumps caste in establishing status. Yet, with the Dalit workers, who remain at the bottom of the social hierarchy, subtle forms of social differentiation continue to be practiced in the quest for distinction, even if equal wages are paid (Gidwani 2000). The North Indian immigrant labourers, however, are viewed as outside their social circles, given differences in culture, the temporariness of their stay in the locality, as well as the language barrier.

Apart from resource control and social differentiation, we find an element of cultural assertion at play to reinforce class, but equally establish elite identities. Ring seine shareholders use their new

economic power and social status to symbolically challenge the established authority of the harbour-based elite. While the annual temple festival was earlier sponsored by the trawl owners, today the ring seine operators spend a lot of money on organizing the week-long festivities with orchestras, colourful lights and other events. Each day a particular group of owners sponsors the celebration with a variety of food and offerings to the goddess and the village people. They also finance the renovation of old structures and the building of new temples, earlier the exclusive privilege of the traditional elites. Symbolic capital earned from such actions contributes to their upward social mobility and status (See Rao 2014b).

Class, Gender and Generation: Challenges and Aspirations

What we have tried to demonstrate in this paper are the complex ways in which capitalization of a traditional sector leads simultaneously to new opportunities as well as new inequalities, with increased exposure to markets potentially having contradictory outcomes for different groups of people – trawl owners, small-scale fishers investing in ring seine shares, crew and labourers in fishing and allied activities, women vendors and auctioneers, traders and exporters. While investments in infrastructure, equipment, education and increased access to credit are important for overcoming “inherited vulnerabilities” such as a dependence on traders for credit, higher exposure to the vagaries of weather due to a lack of technology, or the spatial isolation and marginalization associated with caste and gender, these might simultaneously produce “new precarity” as seen in the unsustainable levels of debt, market dependency, increased inequality, increased out-migration and increased competition (Rigg et al. 2016).

To take advantage of the opportunities, small-scale fishermen and women in our study context are engaging in new forms of cooperation, especially pooling financial and material resources. This has enabled them to stake a claim to marine resources as their entitlement as traditional fishers, earn higher incomes to fulfil future aspirations, and also combat growing perceptions of injustice (Bavinck et al. 2018). It has however simultaneously led to the formulation of new criteria for inclusion and exclusion: while access to a common property resource is being renegotiated within the fishing community, broadening to an extent the base of owners through a shared ownership mechanism, the gap between owners and crew appears to be widening. It is not that differentiation did not exist in marine fisheries in India. The mechanized trawl sector, encouraged by state initiatives since the 1950s, was already in control of a disproportionate share of the fish catch. Yet the majority of fishers, 70 percent, remained in the small-scale sector, working on principles of social equity and ecological sustainability, similar to the agrarian sector, dominated by small and marginal farmers.

Their pathways for appropriating resources are however not linear or clear-cut (Sneddon 2007), as they are mediated and regulated by the big traders and export agents, but also other value chain actors such as financiers, processors and industries for fish meal production and oil extraction. Accumulation then is a dynamic and circuitous process. While small-scale fishers have varying capacities to bear seasonal losses and negotiate with trawl fleet owners, the traders too seek to diversify across the value chain to minimize risks. As seafood trade has historically strong links with global commodity chains, with both state and non-state entities involved in its governance (Bavinck 2018; Campling 2012), its very complexity renders the process of surplus appropriation in the ring seine sector uncertain. Conflicts within ring seine groups are common, with some withdrawing their capital to reinvest in small-scale fishing or small businesses, and others trying to find more dependable partners for their venture. While a majority reported that ring seine benefited them in the early years, and they had little option but to adopt ring seine due to growing

competition and peer pressure, there has been greater introspection more recently, with persistent poor catches and growing indebtedness. Success is hard to measure in such a dynamic context.

Involving a host of actors and livelihood practices, the pathways of accumulation are also contradictory, simultaneously resisting and engaging in projects of accumulation. This is reflected in the sharpening of divides based on the intersections of class, caste, gender and generation. With class mobility, for instance, new class alliances are being formed which seek some diffusion in the concentration of capital locally. They are however restricted to the fishing communities, the Pattinavars in this study, unwilling to allow other caste groups to join as partners/shareholders. This difference is maintained through the evolution of the system of shares to take account of the need to raise adequate finance capital for the fishing enterprise. At the same time, new forms of masculinities and femininities are being constructed. While fisherwomen are increasingly excluded from earning incomes from the fishing enterprise, they are nevertheless expected to raise and contribute capital to the processes of accumulation and status production.

Greater capitalization has meant a greater demand for labour, met in this instance by migrant workers, both from the agricultural hinterland and more distant and less developed parts of North India (Rao and Mitra 2013). Despite the discourse of equal treatment, their labour is expropriated for the purposes of building and sustaining the capital of the new “elite” shareholders, justified on grounds of skill and experience. While the level of harassment or exploitation is relatively low in fisheries compared to other sectors such as mining or industry, the pressures of commodity production for a competitive market, of ensuring profitability in the face of high capital investment, is making the class divides beyond the fishing castes, alongside deepening gender and age inequities, increasingly visible (Hapke and Ayyankeri 2018).

A relatively new form of differentiation and indeed conflict is the generational one. Young men of the fishing communities, often well educated, are confronted with a lack of remunerative employment in the public or private sector. They aspire to return to fishing as boat-owners, seeking higher incomes than their fathers. They also seek status by engaging in a more modern concept of fisheries, dependent on capital investment in new technologies, in order to earn more within a shorter timeframe. In the absence of financing from banks and other public financial institutions, given the state notification banning the use of the ring seine gear, they raise resources for initial capital investment by undertaking short-term labour migration overseas, working for relatively low wages in poor working conditions (See Gidwani and Sivaramakrishnan 2003), or by incurring debt, mainly from private moneylenders at high rates of interest. This dependence on external sources of capital mobilization itself motivates more exploitative labour relations, leading also to the reproduction of unequal social, and in particular, gender relationships. An easy route to raising capital appears to be demanding large dowries during marriages. In a focus group discussion with young men in Uppanankuppam, they admitted that if they opposed dowry demands, they were increasingly marginalized within their homes and that claiming large dowries has grown as a pathway for securing entry into the fishing industry. These experiences highlight the contradictory nature of processes of capital accumulation, with winners and losers even within the household, not just the community.

While some of these changes have opened up new opportunities for women, as in auctioning, for a majority, their small-scale trading activities are increasingly threatened by their inability to access fish to sell or even for household consumption. Both capitalization and the recruitment of male migrant labour for subsidiary tasks have marginalized women’s active role in fisheries, and

as if to compensate, dowry has emerged as an important source of both capital and status. While women's contributions to capital accumulation through dowries is recognized, increasingly excluded from the processes of production and post-harvest processing, they are seen as dependents of male fishers, rather than entitled to a share of the resources in their own right. Dowry inflation here marks a decline in the status of fisherwomen.

Ultimately, we find unequal power relations and inequalities being both challenged and reproduced through formal and informal institutions governing property rights, access to finance and capital, availability of remunerative employment and decent work, and social norms veering towards a "reprivatization" of social reproduction (Fraser 1989), whereby individuals and households take responsibility for their welfare and wellbeing, rather than states or communities. While there is some diffusion of capital within the fishing caste, it remains exclusive to this group, with outsiders, especially of the labouring classes, not allowed entry. In the present neoliberal context, everyday forms of resistance (Scott 1985) appear to have given way to everyday forms of cooperation, in this case, share-ownership of boats and gear, seeking to renegotiate relations of inequality and perceived injustice within the fishing communities. They however do not challenge the new forms of production and consumption, which are further marginalizing the labouring classes, women and indeed the younger generation of fishers, lacking in capital.

Efforts towards strengthening co-management are currently being explored (Ramachandran and Mohamed 2015), yet it would take a much greater effort by the state to facilitate real partnership, based on mutual respect and clear roles and responsibilities of the various actors, including fishers, labourers, traders, officials and scientists (See Bavinck et al. 2017). Even if shares are not equalized, there is a need to recognize the contributions of a range of fish system actors, especially those at the bottom of the hierarchy, including labourers, migrant workers and women. Efforts are needed to protect their basic rights, while also ensuring them access to welfare benefits as "workers". Such institutional innovations can open possibilities for justice.

References

- Agnew, D. J., N. L. Gutiérrez, A. Stern-Pirlot and D. D. Hoggarth. 2014. “The MSC experience: developing an operational certification standard and a market incentive to improve fishery sustainability”. *ICES Journal of Marine Science*, 71:216-225. <http://dx.doi.org/10.1093/icesjms/fst091>
- Bavinck, M. 2001. *Marine Resource Management: Conflict and Resolution in the Fisheries of the Coromandel Coast*. New Delhi: Sage.
- Bavinck, M. 2003. “The spatially splintered state: myths and realities in the regulation of marine fisheries in Tamil Nadu, India”. *Development and Change*, 34(4):633-657.
- Bavinck, M. 2008. “Collective strategies and windfall catches: fisher responses to tsunami relief efforts in South India”. *Transforming Cultures eJournal*, 3:76-92.
- Bavinck, M. 2014. “Investigating poverty through the lens of riches – Immigration and segregation in Indian capture fisheries”. *Development Policy Review*, 32(1):33-52.
- Bavinck, M. 2018. “Legal pluralism, governance, and the dynamics of seafood supply Chains: Explorations from South Asia”. *Maritime Studies*, 17:275–284.
- Bavinck, M. 2020. “The Troubled Ascent of a Marine Ring Seine Fishery in Tamil Nadu”. *Economic and Political Weekly*, 55(14):36-43.
- Bavinck, M., D. Johnson, O. Amarasinghe, J. Rubinoff, S. Southwold and K. T. Thomson. 2013. “From Indifference to Mutual Support: A Comparative Analysis of Legal Pluralism in the Governing of South Asian Fisheries”. *European Journal of Development Research*, 25(4):621–40.
- Bavinck, M. and V. Viveknandan. 2017. “Qualities of self-governance and wellbeing in the fishing communities of northern Tamil Nadu, India—the role of Pattinavar ur panchayats”. *Maritime Studies*, 16(16). DOI 10.1186/s40152-017-0070-8.
- Bavinck M, F. Hoefsloot and M. Wastiaux. 2017. “Responsible fisheries? A response to the ‘new path’ of co-governance”. *Economic and Political Weekly*, 52(39):83-86.
- Bavinck, M, Jentoft, S and J. Scholtens. 2018. “Fisheries as social struggle: A reinvigorated social science research agenda”. *Marine Policy*, 94:46-52.
- Beneria, L. 1979. “Reproduction, production and the sexual division of labour”. *Cambridge Journal of Economics*, 3(3):203-225. <https://doi.org/10.1093/oxfordjournals.cje.a035421>
- Benjaminsen, T.A and I. Bryceson. 2012. “Conservation, green/blue grabbing and accumulation by dispossession in Tanzania”. *The Journal of Peasant Studies*, 39(2):335–355.

- Bhathal, B. 2014. *Government-led Development of India's Marine Fisheries Since 1950: Catch and Effort Trends, and Bioeconomic Models for Exploring Alternative Policies*. Unpublished PhD thesis, University of British Columbia. Mimeo.
- Byres, T. 2006. "Sharecropping". In *The Elgar Companion to Development Studies*, edited by D. A. Clark, 545-49. Cheltenham: Edward Elgar.
- Campling, L. 2012. "Tuna 'Commodity Frontier': Business Strategies and Environment in the Industrial Tuna Fisheries of the Western Indian Ocean". *Journal of Agrarian Change*, 12(2&3):252-278.
- Campling L., H. Elizabeth and P. M. Howard. 2012. "The political economy and ecology of capture fisheries: Market dynamics, resource access and relations of exploitation and resistance". *Journal of Agrarian Change*, 12(2/3):177-203.
- Census of India. 2011. New Delhi: Ministry of Home Affairs, Government of India.
<https://censusindia.gov.in/2011-Common/CensusData2011.html>
- Central Marine Fisheries Research Institute. 2010a. *Marine Fisheries Census: Socio-demographic data*. Kochi: CMFRI.
- Central Marine Fisheries Research Institute. 2010b. *Marine Fisheries Census: Fish landing data*. Kochi: CMFRI.
- Crenshaw, Kimberle. 1989. "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics". *University of Chicago Legal Forum*, 1989(8). Available at: <https://chicagounbound.uchicago.edu/uclf/vol1989/iss1/8>
- Cresswell, T and P. Merriman. 2011. *Geographies of Mobilities: Practices, Spaces and Subjects*. London: Ashgate.
- Crosoer, D., L. van Sittert and S. Ponte. 2006. "The integration of South African fisheries into the global economy: past, present and future". *Marine Policy*, 30(1):18-29.
- Dunaway, W.A. 2013. *Gendered Commodity Chains: Seeing women's work and households in global production*. Stanford. Stanford University Press.
- Elmhirst, R. 2011. "Introducing new feminist political ecologies". *Geoforum*, 42:129-132.
- Ferguson, J. 2015. "Give a man a fish: Reflections on the new politics of distribution". London: Duke University Press.
- Fraser, N. 1989. *Unruly practices: power, discourse, and gender in contemporary social theory*. Minneapolis: University of Minnesota Press.
- Gidwani, Vinay. 2000. "The Quest for Distinction: A Reappraisal of the Rural Labor Process in Kheda District (Gujarat), India". *Economic Geography*, 76(2):145-168.

- Gidwani, V. and K. Sivaramakrishnan. 2003. "Circular migration and the spaces of cultural assertion". *Annals of the Association of American Geographers*, 93(1):186-213.
- GoI (Government of India). 2017. *National Policy on Marine Fisheries*. New Delhi: Department of Animal Husbandry, Dairying and Fisheries. Ministry of Agriculture and Farmer's Welfare. <https://vikaspedia.in/agriculture/policies-and-schemes/fisheries-related/national-policy-on-marine-fisheries-2017>.
- GoTN (Government of Tamil Nadu). 2017. *Tamil Nadu Human Development Report 2017*. State Planning Commission. Chennai: GoTN. <http://www.spc.tn.gov.in/tnhdr2017.html>
- Gunasekaran, S. 2020. *Map of study area*. Rural Informatics Centre (RICE), Alagappa University, Karaikudi. Tamil Nadu: RICE.
- Hapke, H. and D. Ayyankeril. 2018. "Gendered livelihoods in the global fish-food economy: a comparative study of three fisherfolk communities in Kerala, India". *Maritime Studies*, 17:133-143.
- Hopewell, John. 2004. *When the shore seine is shot, the whole village eats! The change in shore seine organization in Valinokkam village and the decline of shore seining in southern Ramnad District, Tamil Nadu, India*. Amsterdam: University of Amsterdam.
- Høst, J. 2016. *Market-based fisheries management – private fish and captains of finance*. MARE Publication Series 16. Dordrecht, Netherlands: Springer.
- Howard, P. M. 2012. "Sharing or appropriation? Share systems, class and commodity relations in Scottish fisheries". *Journal of Agrarian Change*, 12(2&3):316-343.
- ILO. 2003. *Conditions of Work in the Fishing Sector. A Comprehensive Standard (a Convention Supplemented by a Recommendation) on Work in the Fishing Sector*. Geneva: International Labour Office.
- Kandiyoti, D. 1998. "Gender, Power and Contestation: Rethinking 'Bargaining with Patriarchy'". In *Feminist visions of development: gender analysis and policy*, edited by C. Jackson and R. Pearson, 135-152. London and New York: Routledge.
- Kurien, J. 1978. "Entry of Big Business into Fishing: Its Impact on Fish Economy". *Economic and Political Weekly*, 13(36):1557-1565.
- Kurien, J. 1985. "Technical assistance projects and socio-economic change: Norwegian intervention in Kerala's fisheries development". *Economic & Political Weekly*, 20(25/26):A70-A88.
- Lawrence, T. N. and R. S. Bhalla. 2018. "Spatially explicit action research for coastal fisheries management". *Plos One*, 13(7).
- Lobe, K. and F. Berkes. 2003. "The padu system of community-based fisheries management: change and local institutional innovation in south India". *Marine Policy*, (28):271-281.

- Mansfield, B. 2004. "Neoliberalism in the oceans: 'rationalization', property rights, and the commons questions". *Geoforum*, 35:313-326.
- Mansfield, B. 2007. "Privatization: Property and the remaking of nature-society relations". *Antipode*, 39(3):393-405.
- Mathew, S. 1991. "Study of the territorial use rights in small-scale fisheries: traditional systems of fisheries management in Pulicat Lake, Tamil Nadu, India". *FAO Fisheries Circular* 839. Rome: FAO.
- Menon, A., M. Bavinck, J. Stephen and R. Manimohan. 2016. "The political ecology of Palk Bay fisheries: geographies of capital, fisher conflict, ethnicity and the nation-state". *Antipode*, 48(2):393-411. <http://dx.doi.org/10.1111/anti.12181>
- Menon, A., M. Sowmen and M. Bavinck. 2018. "Rethinking Capitalist Transformation of Fisheries in South Africa and India". *Ecology and Society*, 23(4):27.
- Marine Products Export Development Authority (MPEDA). 2012. "Seafood Export–Growth in Export of Indian Marine Products (1961–62 to 2011–12)". Kochi: Marine Products Export Development Authority, India. <http://www.mpeda.com/Overview/exports.htm>
- Nadel-Klein, J. 2003. *Fishing for heritage: Modernity and loss along the Scottish coast*. Oxford: Berg.
- Ostrom, E. 1990. *Governing the Commons: The evolution of institutions for collective action*. Cambridge: Cambridge University Press.
- Pérez-Ramírez, M., G. Ponce-Díaz and S. Lluch-Cota. 2012. "The role of MSC certification in the empowerment of fishing cooperatives in Mexico: the case of red rock lobster co-managed fishery". *Ocean & Coastal Management*, 63:24-29. <http://dx.doi.org/10.1016/j.ocecoaman.2012.03.009>
- Pillai, N. G. K. and P. Katiha. 2004. *Evolution of Fisheries and Aquaculture in India*. Kochi: CMFRI.
- Pillai, S. L. and P. Thirumilu. 2005. *Increased penaeid shrimp catch by indigenous gears in post-Tsunami period off Chennai coast, Tamil Nadu*. Marine Fisheries Information Service 185, 19-20.
- Rajan, J. B. 2002. "Labour mobility in the small-scale fisheries sector of Kerala". *Discussion Paper No. 44*. Thiruvananthapuram: Centre for Development Studies.
- Ram, K. 1991. *Mukkuvar Women: gender, hegemony and capitalist transformation in a south Indian fishing community*. London: Zed.
- Ramachandran, C. and K. Sunil Mohamed. 2015. "Responsible Fisheries: Kerala Fish Workers Open New Path in Co-governance." *Economic and Political Weekly*, 50(35):16-18.

- Rao, N. 2014a. "Caste, Kinship and Life-course: Rethinking Women's Work and Agency in Rural South India". *Feminist Economics*, 20(4):78-102.
- Rao, N. 2014b. "Migration, mobility and changing power relations: Aspirations and praxis of Bangladeshi migrants". *Gender, Place and Culture*, 21(7):872-887.
- Rao, N. and A. Mitra. 2013. "Migration, Representations and Social Relations: Experiences of Jharkhand Labour to Western Uttar Pradesh". *Journal of Development Studies*, 49(6):846-860.
- Rigg, J., K. J. Oven, G. P. Basyal and R. Lamichhane. 2016. "Between a rock and a hard place: Vulnerability and precarity in rural Nepal". *Geoforum*, 76:63-74.
- Rocheleau, D. 2008. "Political ecology in the key of policy: from chains of explanation to webs of relations". *Geoforum*, 39:716-727.
- Rocheleau, D. E., B. P. Thomas-Slayer and E. Wangari (eds.). 1996. *Feminist Political Ecology: Global Issues and Local Experiences*. London and New York: Routledge.
- Sathiadhas, R. 2009. "Inter-sectoral Disparity and Marginalization in Marine Fisheries in India." *Asian Fisheries Science*, 22:773-786.
- Sathianandan, T. V. 2017. *Marine fish production in India – present status*. Kochi: Central Marine Fisheries Research Institute (ICAR). <http://eprints.cmfri.org.in/12164/1/2-Marine%20fish%20production%20in%20India.pdf>
- Scott, J. C. 1976. *The Moral economy of the peasant: Rebellion and subsistence in southeast Asia*. New Haven: Yale University Press.
- Scott, J.C. 1985. *Weapons of the weak: everyday forms of peasant resistance*. New Haven: Yale University Press.
- Sinha S. 2012. "Transnationality and the Indian fishworkers movement, 1960s–2000." *Journal of Agrarian Change*, 12(2/3):364–389.
- Sneddon, C. 2007. "Nature's Materiality and the Circuitous Paths of Accumulation: Dispossession of Freshwater Fisheries in Cambodia." *Antipode*, 39(1):167–193.
- Srinivasan, S. 2012. *Daughter Deficit: Sex Selection in Tamil Nadu*. New Delhi: Women Unlimited.
- Standing, G. 2011. *The precariat: The new dangerous class*. London: Bloomsbury.
- Subramanian, A. 2009. *Shorelines: Space and Rights in South India*. Stanford: Stanford University Press.

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Sundar, A. 2010. *Capitalist transformation and the evolution of civil society in a South Indian fishery*. PhD thesis. University of Toronto. Mimeo.

Swaminathan, H., J. Y. Suchitra and R. Lahoti. 2011. *Karnataka Household Asset Survey: Measuring the gender asset gap*. Bangalore: Indian Institute of Management.

Vivekanandan, E. 2011. "Climate change and Indian marine fisheries". *CMFRI Special Publication No. 105*. Kochi: Central Marine Fisheries Research Institute.

Vivekanandan, E., M. Srinath and S. Kuriakose. 2005. "Fishing the marine food web along the Indian coast". *Fisheries Research*, 72:241-252.

Vivekanandan, V. and H. M. Kasim. 2011. *Fisheries Management Options for Tamil Nadu & Puducherry*. Chennai: Food and Agriculture Organization of the United Nations, The World Bank, Government of Tamil Nadu and the Government of Puducherry.

Warrier, Shobhana M. V. 2001. "Women at Work: Migrant Women in Fish Processing Industry". *Economic and Political Weekly*, 36(37):3554-3562.